PH – Painless Hospital

to treat post-surgery pain

LITE Version 1.0

User guide

(first edition)

Consulenza scientifica
Dott. Maurizio Massetti

logica informatica

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1. Introduction

1.1 What is PH?

"Painless Hospital" (PH) is an Apple iPad's application designed both to streamline and simplify the management of post-surgical operation pain within surgical wards. In addition to meeting the requirement for registration folder (law n°38 03/2010), PH makes it possible both the creation and the use of analgesic customized protocols, and the offer of a large choice between protocols and fixed, continuous or peridural – perinervous time schedules, and at last it makes possible to report the used continuous infusion device (thus controlling its consumption).

Thanks to PH application it is possible to set the save-dose for pain and the save-dose for P.O.N.V., which have to be considered as real prescriptions. During the post- surgical operation period both the control and the pain registration are simplified by the movable device that, containing all inmates information, will be transferred in the ward and thus it will be used to measure the pain (pain scales NRS, VRS, and so on). Moreover, it is possible to record side effects and, during monitoring and statistic assessment, compare them with the use of the different protocols.

The application is perfectly suited to the management of a comprehensive database of surgical inmates and the continuing review of adopted protocols. PH allows the complete management of a surgical inmate from the operating room to the ward.

Through the application of PH it is possible to:

- Apply suitable protocols to the operated inmates (such protocols can be chosen between those already present within the application or we can create some new and costumized protocols)
- Customize the post-surgical analgesia with all drug choice of F.A.N.S drugs, opioid, local anaesthetic, adjuvants, paracetamol, and so on
- Choose between "fixed time" protocols, "intravenous" protocols, "peridural-perinervous" protocols
- Choose the device for continuous infusion
- Set the save-dose in case of pain
- Set the save-dose for side effects (nausea, vomit, itching)
- Monitoring the pain through N.R.S. scale (numeric rating scale) which offers a range from 0 – no pain to 10 – strong pain
- Record side effects as nausea, vomit, itching, hypertension and so on
- Maintain a complete database on pain management for all surgical inmates

1.2 Who is it for

The application users are persons involved, for different reasons, in the post-surgical pain therapy in any hospital wards.

For each inmate it is provided a completed “file” including:

1. information on the characteristics of the anaesthesia given in the operating room
2. prescriptions for post-surgical analgesia
3. periodical survey of pain perception and the presence of other undesired symptoms for the whole post-surgical period.

The first two actions fall behind the responsibility of the anesthetist, while the last action, i.e. the survey, falls behind the responsibility of the nurses. The application provides, moreover, useful data to control and monitor the therapeutic protocols, which implies those subjects who have this kind of responsibility. The many professionals involved can be managed by PH application through the definition both of users and usage profiles (see chapter 6) which allow the use of the same device by several persons, each one with its own authorization level, and also allow the adjustment of the application to different organizational realities.

1.3 PH versions

Painless Hospital exists in three versions:

Lite (the version relating to this manual) allows to work with “stand-alone” modality, that is that each iPad manages its own data individually, un-integrated with the server and with other iPads

Full adds to the Lite version the functions able to synchronize the data with a “server” component, which allows the aggregation of those data on a traditional computer, on which we can, for example, perform statistical processing and transferring to other databases. It also adds features for printing and sending data directly from the iPad.

Enterprise contains full functions of integration which allows the sharing of information between a central server and any number of PH copies; in this way we can control, at a central level, all the parameters for system customization (i.e. the standard protocols, see chapter 5), sharing the inmates database, control the authorization and the users roles.

1.4 Structure of this manual

This manual describes the functions and the usage modalities of Painless Hospital Lite version 1.0 (after abbreviated as PH Lite). Note that this manual is also included in the application (called up by pressing the "info" button, see 2.4.1).

Next chapters are dedicated to:

Chapter 2 “how to begin”

Instructions for the installation, the start up and the first use

Chapter 3 “Application function”

Preliminary description of the several application features”

Chapter 4 “The main medical file”

Detailed description of the medical file for the registration of the therapy

Chapter 5 “Configuration and customization”

Features description to reconfigure application in the manner that best meets own needs

Chapter 6 “Definition and administration of the users”

Description of the features to represent the own organization, as users, roles and wards.

1.5 Additional information

If you need further information and for any other kind of communication, please refer to the manufacturer's website Computer Logic Ltd:

http://www.logicainformatica.it

2. How to begin

2.1 Install

PH Lite is a standard application for Apple iPad, distributed through the online store AppStore. For this reason it can be used only on iPad.

In order to download and to install it on its own device we have to proceed in the standard mode, obviously having a iPad . The download can be done directly on the iPad (using the appropriate application “App Store”) or from the program iTunes (for Windows or Mac). The application is in the Medicine category , but the quickest way to find it is by typing the name "Painless Hospital" in the search field.

If you operate directly through the iPad, the installation is automatic after the download; if you use iTunes you need to connect the iPad to the computer with the USB cable and proceed with the function “Synchronize” of iTunes.

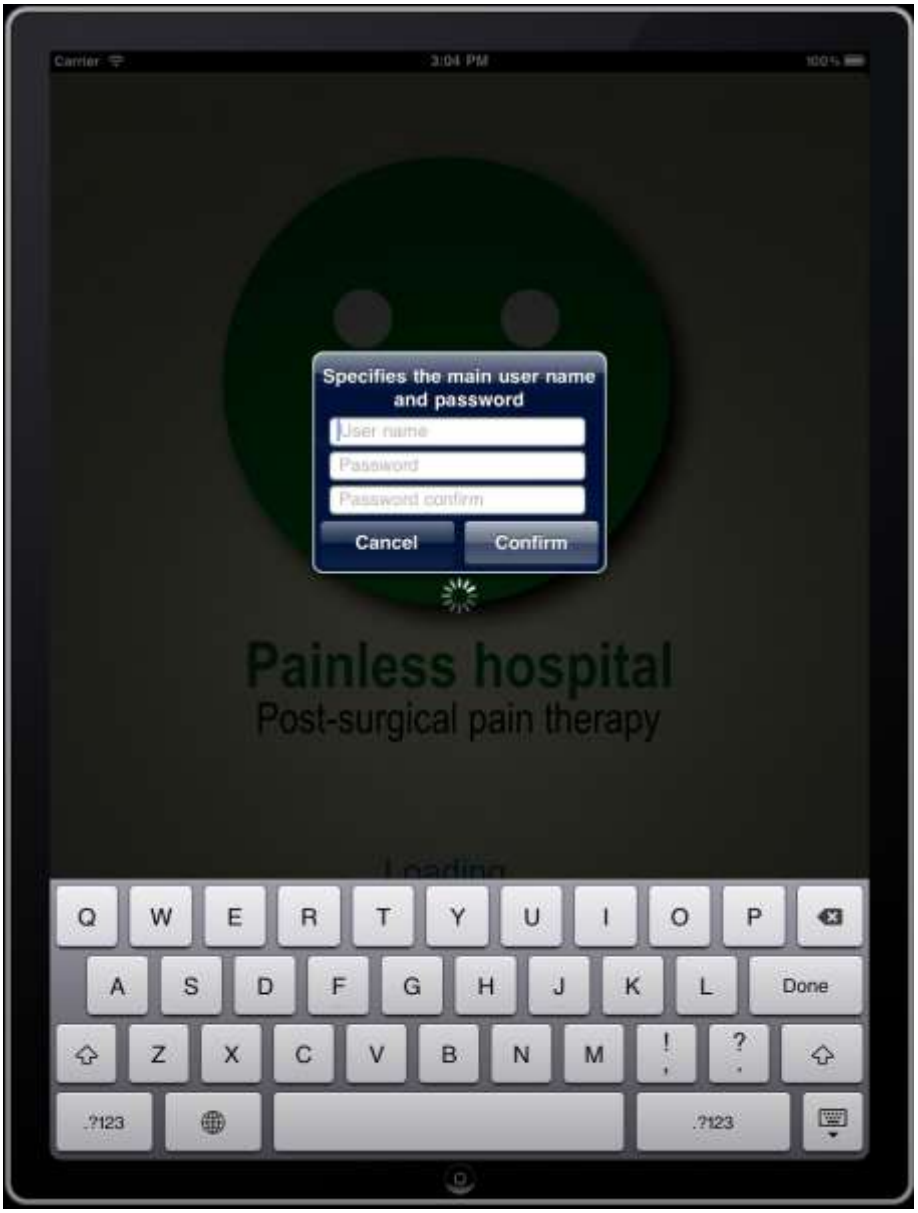
2.2 Uninstall

If you want to uninstall PH, you only need to cancel it from the iPad with the usual method (you have to enter in the edit mod, click for 2 seconds the icon and then you touch the red dot with the “x” that appears on the corner.)

NOTA BENE: With the uninstall function the data which have been created with the application are also cancelled from the iPad (i.e. inmates and their therapy medical files).

2.3 Startup and initialization

Immediately after the installation, the first time that you startup, PH Lite asks the user to create a userid (username) and a password which will be from that moment on the userid and the password asked to the main user. This is the panel that appears during the first start:



Note that the userid is “case-insensitive”, it means that it can be written either with small or capital letters; the password instead is “case-sensitive” (it means that takes into account the difference between uppercase and lowercase letters) and it shall be at least 3 of characters.

So the main user will be considered as the “administrator” (see paragraph 6.1.1), a permanent feature . He can define and enable other users. To each new user, for the first access, will be asked to create its own password.

For next accesses, the “login” panel looks like that:

2.4 Basic instructions for use

2.4.1 Screen structure

PH Lite application can be used with the iPad both horizontally (“landscape” mode) and vertically (“portrait” mode). In the first case, the screen appears divided into two sides: on the left side there are two lists which allow the navigation (the inmate medical records, configuration function etc…), on the right side, the main part of the screen, is assigned to the “therapy” file (see chapter 4).

If the device is used vertically (or it is rotated in at any time vertically), the main file expands until it fills all the screen, while the left side containing the lists

disappears. This function is replaced, in the toolbar, down on the left, by the button “List”. If you press it you obtain, overlapped on the main screen, the same list that could be seen on the left side horizontally.

In this position, if you want to make the list disappear you only need to touch the screen out of the same list.

2.4.2 Information bar

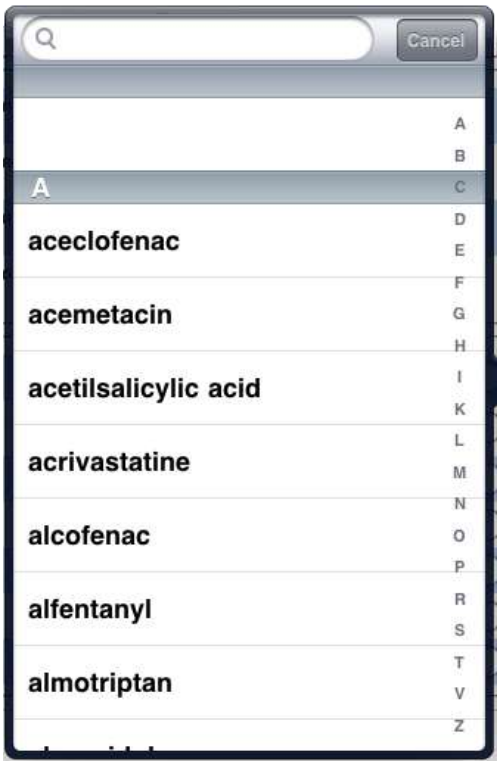
I The already described button “List” is set on the toolbar that always appears down on the left side of the screen (if it is used horizontally it is set down on the right side of the screen):

The bar, besides the button “List” contain:

- The name and the version number of the application (OSD Lite 1.0)
- The button “Info” to display the user guide (this same guide)
- The user name (which is indicated as “[user to define]” until we proceed to the described operation in paragraph 2.5)
- The button to “logout”

2.4.3 Working with lists

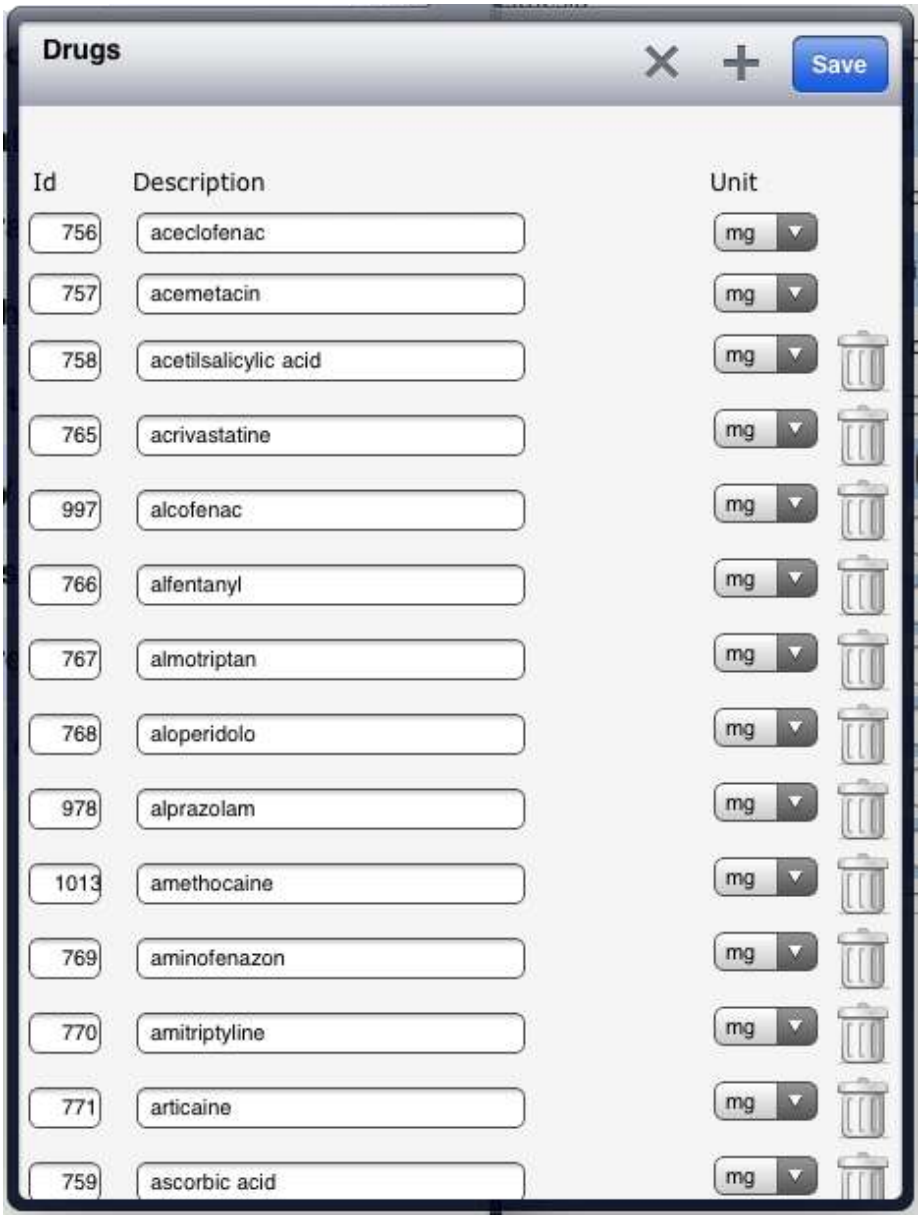
Lists that have been earlier mentioned are used with the usual mode for the iPad: the scrolling is simply made dragging with your finger, while the selection of an element is made with a simple touch on the respective line. In some cases (see figure), the list provides for an alphabetic index on the right side, touching which a quick setting can be obtained on the space of the list corresponding to the selected letter.



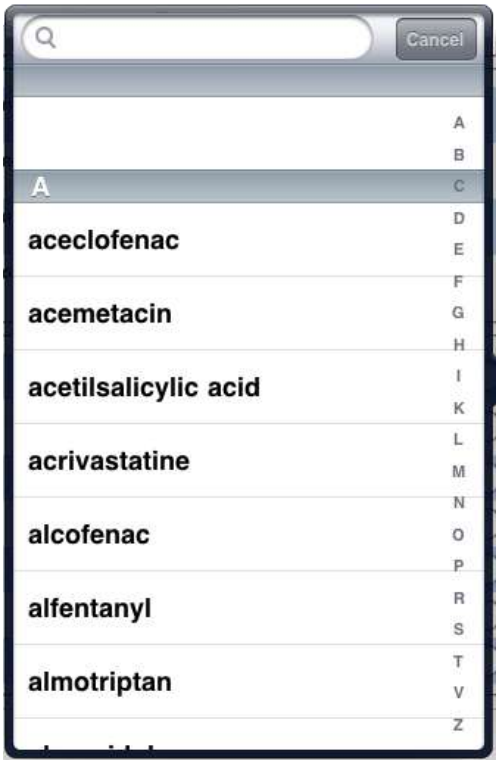
2.4.4 Using “popover” windows

In many cases, the application shows a window which is overlapped to the main window (as in the above described lists). These windows can be closed in three ways:

1. using the button **“close”** as in the following:



2. selecting one of the elements for which the windows has been created, as in the figure:



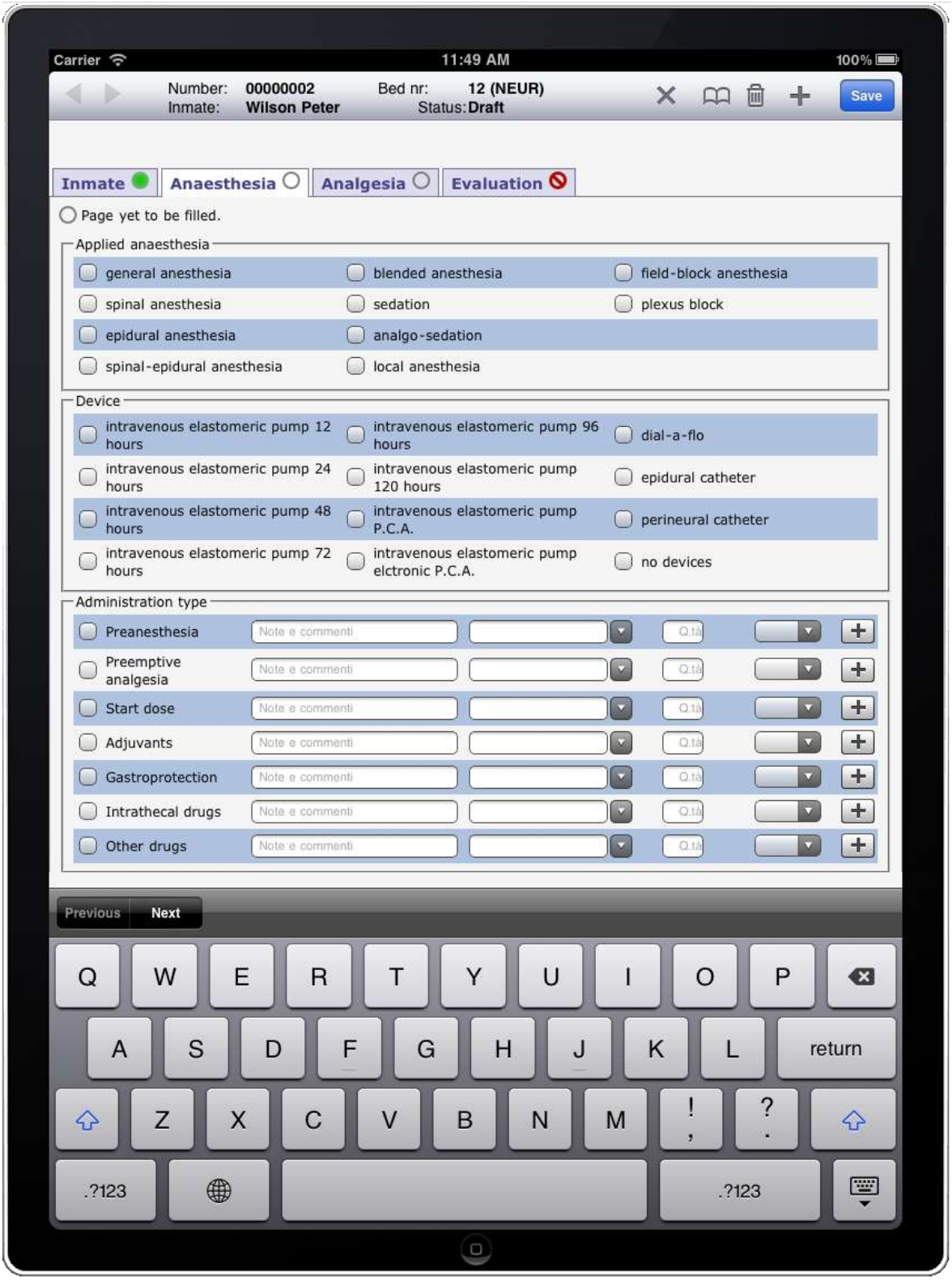
3. touching the screen at a point outside the same popover

2.4.5 Data entry

In the main file of the application (chapter 4) and in different other main files there are fields for data entry and/or value selection fields. Their mode use is described in the following paragraphs.

2.4.5.1 Text field

The insertion of the text (or numbers) in the form's fields is made trough the keyboard that appears when you touch the screen within the desired field:



To make the keyboard disappear, you can use the button placed down on the left side of the same keyboard.

2.4.5.2 Fields containing a date

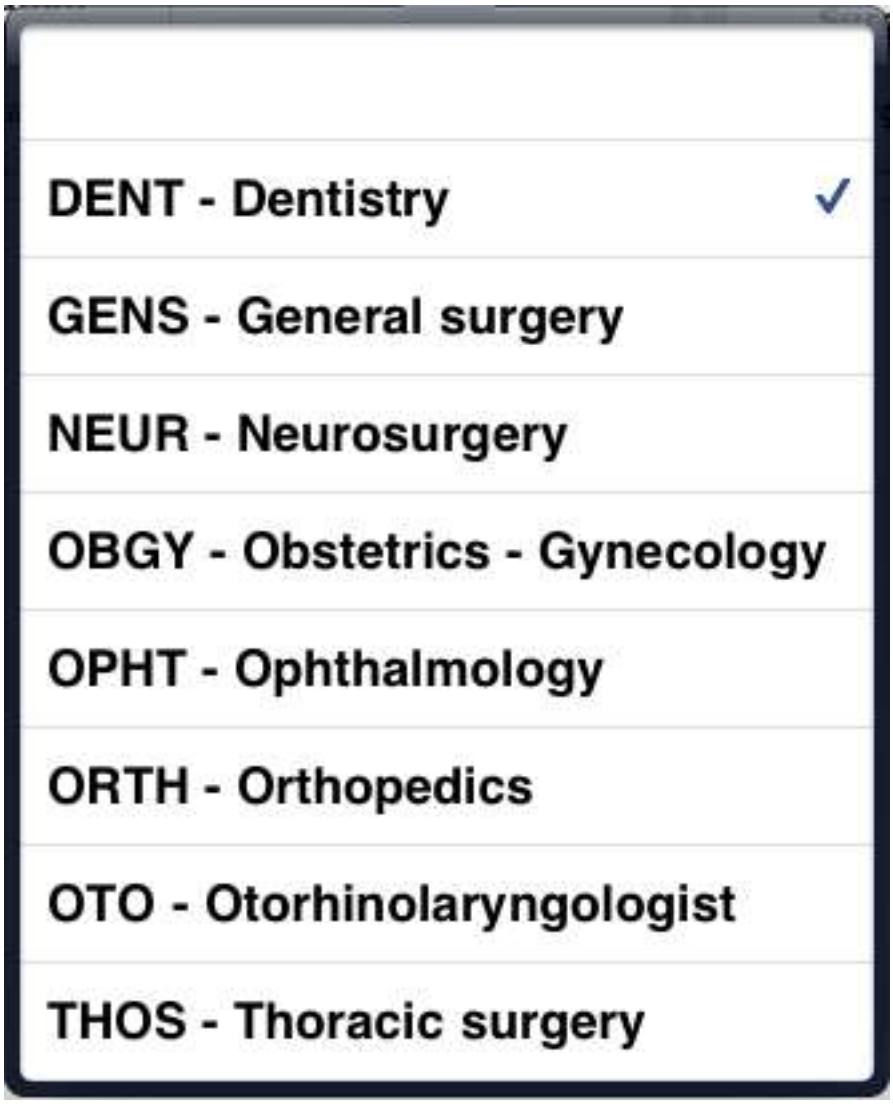
If we have to enter a date in a field (i.e. the date of the therapy file), we can manually enter it as a normal text field, with a free form (i.e. dd/mm/yy). Near the field appears, however, a calendar icon to facilitate date insertion as the one showed below:

2.4.5.3 Fields containing a date and/or time

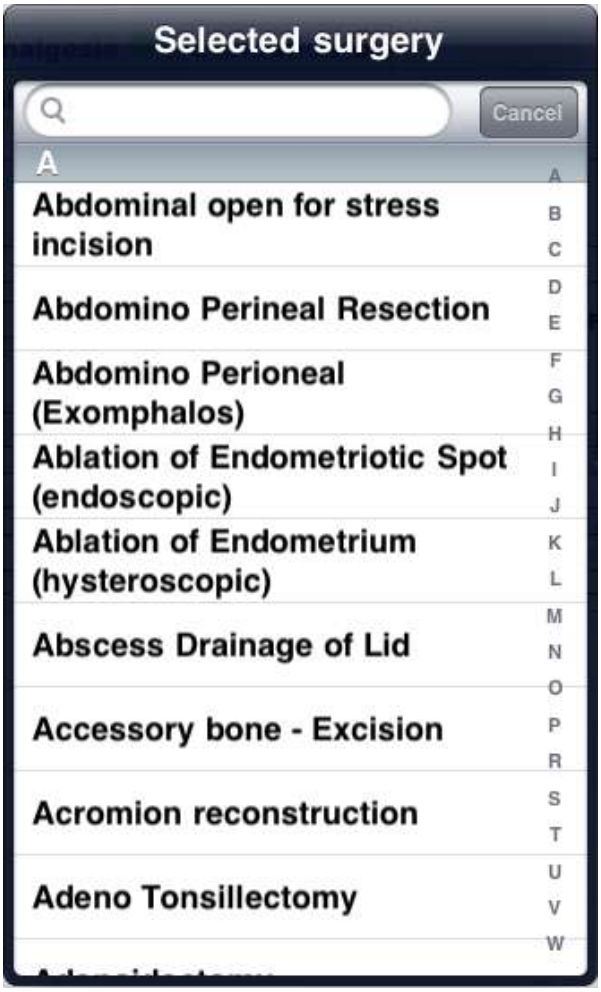
If in a field you have to enter a time with or without a date (i.e. the date and the time measurement of the assessment page of pain) you will proceed as with the fields containing a date, it means that you can use the rotating selector that appears if you touch the small icon “clock” near the relevant field:

2.4.5.4 Fields with a selection from the down-drop list

The “down-drop” lists are generated touching the fields providing this kind of selection. They can be simple lists, as those in the figure below



in which you can only select a value (including the empty one on the first line) or you can delete the window touching an external point, or they can be more complex, as the one in the following figure:


Selected surgery
Cancel
A
Abdominal open for stress incision
Abdomino Perineal Resection
Abdomino Perioneal (Exomphalos)
Ablation of Endometriotic Spot (endoscopic)
Ablation of Endometrium (hysteroscopic)
Abscess Drainage of Lid
Accessory bone - Excision
Acromion reconstruction
Adeno Tonsillectomy
A B C D E F G H I J K L M N O P R S T U V W

In which you can do further operations besides the simple selection (in the case above you can use the alphabetic index on the right and the function “search”).

2.4.6 Application exit

To exit the application you can do it using two modes:

- clicking the stop button of the iPad (the round one on the screen edge)
- touching the icon of “exit” down on the left side of the information bar (see 2.4.2)

It is to be noted that, in the first case, if the iPad operating system is 4.2 version or next version (available from December 2010 on), the application will be not completed, but put “waiting” in background (shown in the background area opened by a quick double click on the interruption button.

2.4.7 Timeout

For security reasons, if you leave the application opened for more than 5 minutes without doing any operation, it means without touching the screen, the system automatically logs out from the PH Lite. In this way you can avoid that an unattended device is used by someone who hasn't the required qualifications.

2.5 Preparation of basic data

During the first start-up, the system already includes basic data to work, but it is useful that the owner user (administrator) pays attention to some important information for a correct use, and "place" them in the best way before starting the effective work.

2.5.1 Main user data

The first operation to be done after the login is defining the name and surname of the main user, just to avoid that it is indicated wherever in PH with the name "(user to define)"

In order to do that, you have to open a list, select the button "run" (down on the right side) and then the item "users", for further details see paragraph 6.1.2.

The main user can't be cancelled and he automatically has the access to all the application's functions.

2.5.2 Wards Organization

As it will be explained in next chapters, both the inmates and the users can be associated to the several hospital wards. Particularly, each user can be explicitly enabled or disabled for the treatment of inmate medical records belonging to one or more wards.

During the installation, there is a template of "standard" wards. Before entering the first inmate medical record, the administrator (main user) should control if the list is appropriate and accordingly correct it.

The detailed procedure is described in paragraph 6.1.2.

2.5.3 Other important data

PH Lite is prepared with some predefined information, that are useful to run the therapy files; these data include kind of interventions, kind of anaesthesia, of medication, of analgesia etc.

It is useful verifying the content of these reference tables (5.2) and properly modify it to work according to its own standards. Particularly please verify the preloaded **protocols** (see 5.1).

3. Applications functions

3.1 Completing “therapy” files

PH Lite functions are based on the compilation of the “pain therapy” files in order to manage and monitor the analgesic post-surgical therapies in a surgery ward.

To this activity first participate anesthetises responsible for inmates and secondly nurses who take care of the inmates during the post-surgical phase. The doctor arranges the therapy file starting from the operating room entrance, indicating the type and method of anaesthesia and in order to complete it with the prescriptions relating to analgesia in the post-surgery period.

Once in the ward, the inmate is cared by the nurses who provide to the periodical survey (at prearranged intervals) recording the level of pain perception (according to the numerical scale, report or view), the possible side effects and the occurred medications of analgesic drugs.

The medical file compilation and the medical record handling is monitored by the flexible system of qualifications foreseen by PH Lite that prevents not authorized changes and it tracks all the carried operations.

For all the details that concerns the medical files compilation modes you have to see chapter 4.

3.2 Configuration and personalization of the system

The composition of the file therapy is largely customizable to be adapted to a specific organization’s needs and to the protocols, drugs and technologies evolution over time.

Indeed, all the directories contributing to the compilation are defined in amendable tables by the authorized user. In this category are included drugs, infusion devices, kind of anaesthesia, kind of medications and so on (see 5.2).

Particularly, you can create and customize de predefined protocols, divided into **fixed time** protocols, **intravenous** protocols and **peridural-perinervous** protocols. Each protocol can be identified both by an acronym and a denomination and it consists of a list of one or more drugs with additional optional indications (number of medications per day, quantity, concentration).

Regarding the medical file compilation, the doctor can use a standard protocol, completing or amending it or he can create a new one.

3.3 Definition and management of the users

PH Lite is designed to be used on a shared device between several users; for this reasons, the administrator can define the users with several usage profiles, including those specific for doctors, nurses and possible supervisors. Each user is identified by a userid and a password and he can be limited to work on a limited group of data and functions; for example typically a nurse can handle only a part of the “evaluation” of the therapy file for all the inmates who belongs to the ward falling within his own competence.

All the details that concerns the users definition are described in chapter 6.

3.4 Operation “Log”

PH Lite tracks all carried operations, indicating the time and the person (user), so that nobody can modify or cancel the data without a trace. The operations “log” (or paper) is maintained both at a global level and individual inmate medical record. Please se paragraph 4.1 and 7.1 for further details.

3.5 Functions not included in LITE version

As regards to Full and Enterprise versions, Lite version fails some functions, summarized in the table below:

Functions	LITE version	FULL version	ENTERPRISE version
Compilation of the inmate medical record	X	X	X
Administration functions	X	X	X
Configuration functions	X	X	X
Printing functions		X	X
Export functions (sending data)		x	X
Synchronization of database with server			X
Synchronization between multiple iPdad			X
Data acquisition from a central database			X
Customization functions of the graphic format			X

4. Main medical file

4.1 Generalities

It is possible to access this function from several application points, particularly you can reach this area after having logged in the application:

- By selecting an inmate from the list,
- By selecting an inmate from a list of inmates recently shown
- By using the function “new inmate”
- The selection surfing of medical files

The medical files will be already filled or not depending on the selection previously made.

The registration of the entered data is done through the buttons that are on the toolbar on the top within the medical files.

The medical record is divided into many areas concerning different competences according to the hospital organization. Particularly you can find the inmate personal data that can be filled by the nurses or doctors, both anaesthesia fields and analgesia falling within doctor’s competence and finally the post-surgical measurement field falling within nurses’ competence. There is an input order regarding the information that implies personal data, followed by anaesthetic and analgesic data. Only after having completed and settled these information it will be possible enter the post-surgical evaluation.

4.1.1 Toolbar and buttons use

There are two toolbars, one on the top (see the figure below) used for managing the inmate medical file and one on the bottom already described in paragraph 2.4.2.

the toolbar contains, besides identification data of the inmate file, the following buttons:

This button switches to the previous inmate medical file. We recommend to use this function with landscape mode so that you can see at the same time the inmates list and the selected medical file.

This button switches to the next medical file. We recommend to use this function with landscape mode so that you can see at the same time the inmates list and the selected medical file.

This button closes the current medical file. After switching off you can access to another medical file or from the list “recent”

This button show the amendments history carried in the inmate file.

This button cancel the inmate file; confirmation is asked before cancelling the file.

It allows to enter a new inmate file.

The icons that are on the toolbar are visible or less according to the certifications associated to the connected user.

4.1.2 Medical file pages

To be more accessible and organized , the inmate medical file has been divided into 4 pages (tab) and precisely “Item”, “Anaesthesia”, “Analgesia” and “Assessment”. If necessary you can use also the protocol renewal, that is to say the change of the protocol in progress by opening a new one to follow from then on; in this case you generate more pages of “Analgesia” and “Assessment”.

Each tab includes, in its header, a text to indicate the data contained in the tab and in one icon to indicate the status of the contained data. The relevant icons are:

– Page not yet editable because the previous pages have to be consolidated

– no entered data

– The entered data are not completed, but however you can go on

– The entered data are not corrected or you miss basic information

– The entered data are correct and they have been confirmed by the user

The compilation of a new medical file must follow an accurate way regarding the data entered in the pages: first you need to enter personal data, after the data concerning the anaesthesia and finally those concerning the analgesia. Only after having confirmed the analgesia data (with

button) it is possible to enter the data that concerns the pain assessment during periodic surveys).

The above button will be shown only after having been saved the data contained in the analgesia field.

4.1.3 Lock, release and renewal functions

You can confirm the data in each page with

. button “CHANGES LOCK”. From this moment on the data can’t be amended anymore, but can be made amendable again by selecting the button “change unlock”

, available if the user is authorized in doing this operation (see chapter 6).

Moreover you can renew the protocol through the button “protocol renew”; the latter is available

; (only for authorize users) after confirming the analgesia. This operation blocks the data entering within the Analgesia and Assessment pages and it makes available two new pages Analgesia and Assessment whose aim is arrange a new therapy phase with a different protocol.

It is possible to go back by selecting the button “delete replacement”

that you can find in the analgesia page of the new protocol. This operation eliminates the new protocol.

To unlock the change you have to select the button “UNLOCK” that is in assessment field, at this point you can also unlock the analgesia data editing.

4.1.4 Informative, warnings and error messages

Some controls are foreseen, of different importance, relating the data entered by the user. Any anomalies, found during the data backup, are available in an appropriate window that is under the toolbar on the top of the screen. All the warnings contain both an icon to indicate the level of importance and the text of the warning itself.

The expected levels of importance are the following:

– Information

– Warning, it means an something incomplete or a not important input error

– Error, missing or incorrect data

4.2 “Inmate data” page

The firs page of the medical file contains all the inmate personal data and it is important to go on with the compilation of the other pages that make up the medical file. The data contained in this page help with the identification of the inmate (also in an anonymous way if necessary), specifying the data concerning the surgical operation made and finally associating the inmate to a ward. The latter information is very useful in order that the health workers within the several wards know the inmates of their own area.

4.2.1 Field explanation

In order to perform the data backup you have to specify the fields surname, name, ward and doctor. The remaining fields are optional.

Regarding the anonymity you can indicate, instead of the name and surname, some codes or anonymous letters. In this case a good information could be, at least, to insert the inmate bed number. The entered data can be confirmed by selecting the button “Changes unlock” that makes the data of the page not amendable. Of course you can make the data amendable again by clicking the button “unlock changes”. The figure below shows the already described page layout.

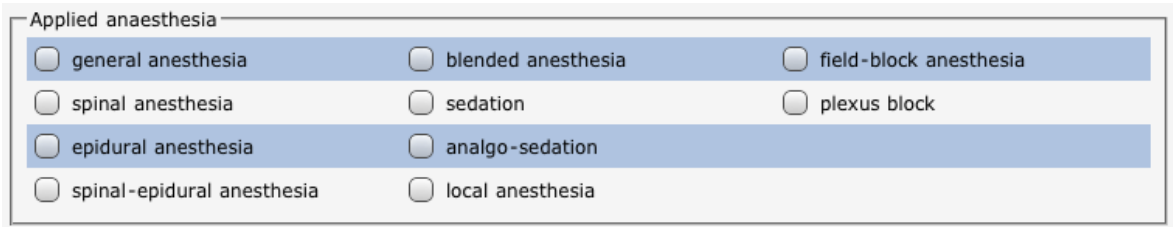
In this page there are the pre-filled lists that can be customized by certain functions. Particularly it is possible to amend the wards list (see 6.1.3), the doctor list (see 6.1.2), hospitalization list (see 5.2.4) and the surgical operations list (see 5.2.8).

There three date fields (date, both starting and end of surgical operations) that represent respectively the date of the medical ward compilation that usually coincides with the surgical operation date, the starting date and time of the surgical operation and the end date of the surgical operation.

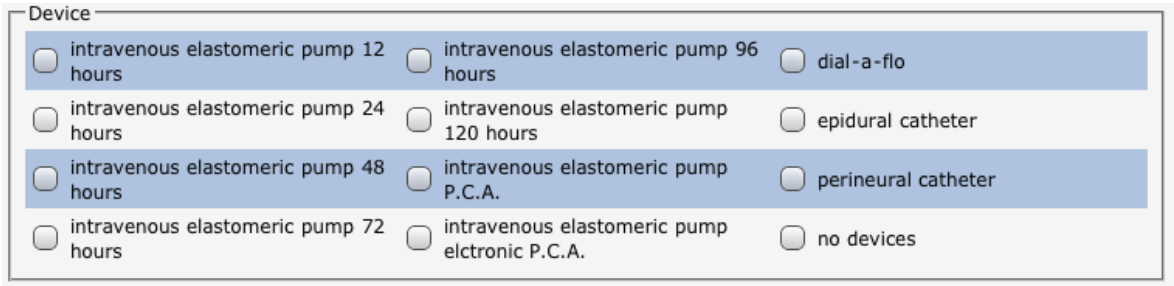
4.3 "Anaesthesia page"

This page allows specifying the information that concerns the kind of used anaesthesia with the relating medication. It is usually filled before the surgical operation; this page is divided in three areas that are: kind of used anaesthesia, device and kind of medication.

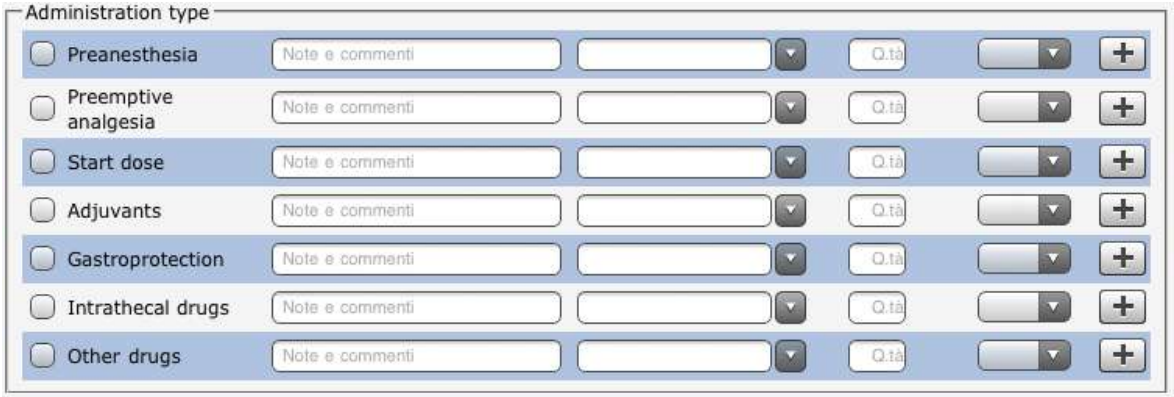
The "anaesthesia" area represented in the figure below allows specifying one or more kind of used anaesthesia. The list is customizable through the administration functions (see 5.2.6).



The "Device" area represented in the figure below allows specifying one or more kinds of used devices. This list is customizable through the administration functions (see 5.2.7).



The "kind of medication" field represented in the figure below allows specifying the information concerning the kinds of medications.



4.3.1 Fields explanation

You can specify the kind of medication and for each of them it is possible to specify besides the information also the taken medications, the quantity and the way to take medicine. It is possible associating several medications to one kind of medication through the button .

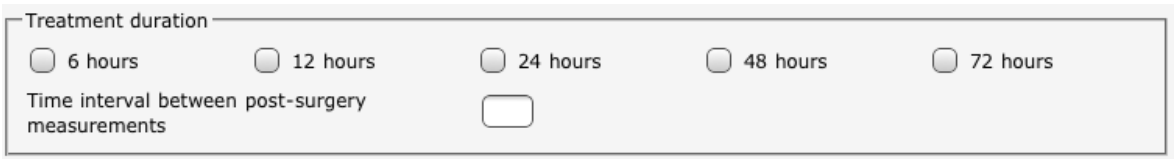
Shouldn't the desired medication be included into the medications list it is possible add it through the relating function (see 5.2.2).

4.4 "Analgesia" page

The analgesia page is aimed at specifying all the information that concerns the post-surgical medications to be given to the inmate who has underwent surgery. You can specify the medication time, the protocols to be given and post-surgical prescriptions that could be used if the inmate has side effects. Normally this medical file is filled by the anaesthetist during the surgical or immediately after it.

The provided section of this page are the following:

- Medication period



The medication period and the range of measurement (it means how often the measurement is required by the nurses) are information relating with how is specified in next page (Assessment).

- Protocols

You can indicate a maximum of one protocol per kind (see next paragraph)

- Prescription relating post-surgical period

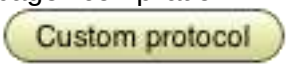
In this section it is specified which medication should be used in case of side effects or as "save- dose" if the therapy is not enough.

Many information of this page are pre-filled lists that can be customized through appropriate administration functions. Particularly it is possible to modify the list concerning the medication time-span list (see 5.2.1), protocols (see 5.1), drugs (see 5.2.2) the medication mode (see 5.2.11) and the codes of intervertebral spaces.

One you have filled all the information and you have saved you have to block the changes of the data by clicking the button “Changes Block”

. This operation allows the filling of the post-surgical assessment page (see 0).

4.4.1 Indication of treatments protocols

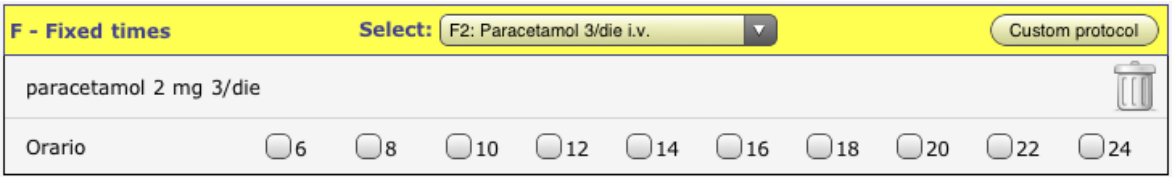
Protocols have been divided into three different typologies and both standard and non standard protocols. Standard protocols are those defined by the system administrator through an appropriate function (see 5.1), while the non standard protocols are those that are customized by the anaesthetist during the analgesia page compilation. The customization is possible by selecting the button 

.

You can specify only one protocol per typology and you can specify, at the same time, several kinds of protocols.

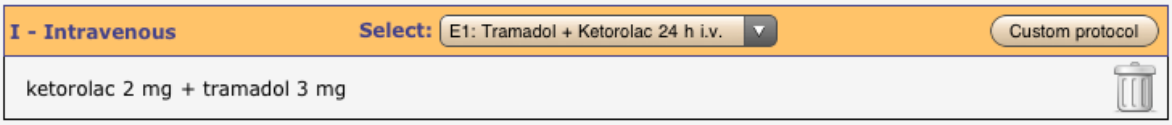
The following protocols are provided:

- fixed time protocol.

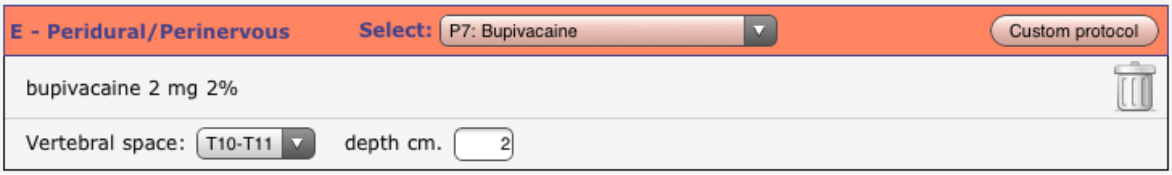


In the time field you need to select the boxes relating the medication time schedule; you have to select many boxes as the medications are indicated in the dosage.

- Intravenous



- Peridural/Perinervous.



In this case besides the drug quantity and the drug strength you have to specify the position and the depth of the insertion.

When you select a standard protocol it is shown the figure below that allows seeing and modifying the details of the data concerning the protocol itself. By doing so, the doctor can use both a completely specified standard protocol without changes or he can complete it specifying the changeable data as the quantity, the strength and the medication mode.

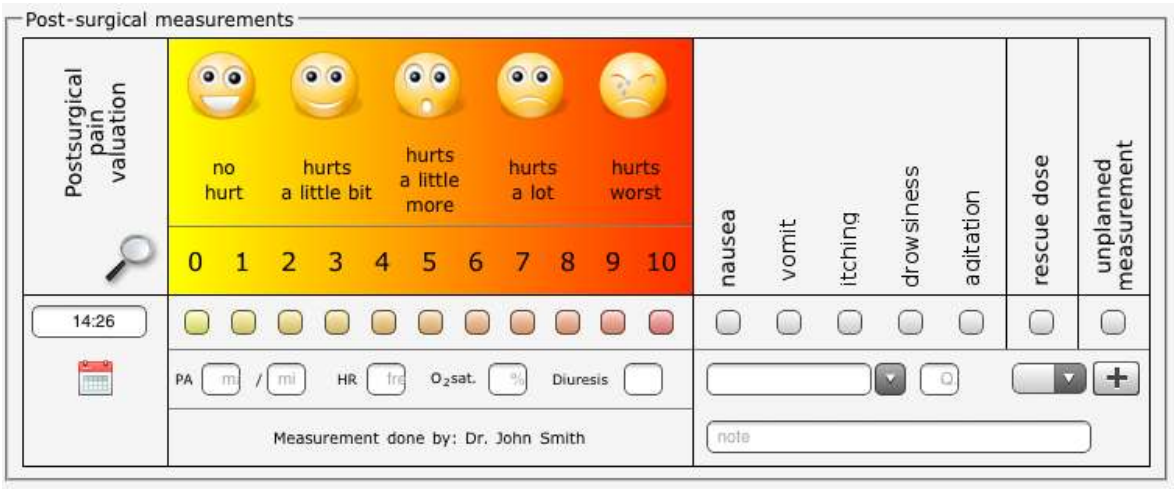
If you want to create a customize protocol, you have also the possibility to create and combine any number of medications (among that of the reference table described in 5.2.2).

Note that the information regarding the medications used in the protocol are different depending on the protocol type. Particularly for those medications concerning fixed time protocols you need to specify also the dosage (number of medication per day), and for those medication of peridural-perinervous you need to specify the strength.

4.5 "Assessment page"

The assessment page is aimed at monitoring the post-surgical phase of inmates recording the variation of the felt pain, any side effects and the required medications. Normally this paged is filled by nurses who are in charge of post-surgical pain measurement.

To have an idea of the page you can see the figure below:



In this page there are pre-filled lists that can be customized through appropriate functions. Particularly you can customize the drugs list (see 5.2.2) and the medications modes (see 5.2.11).

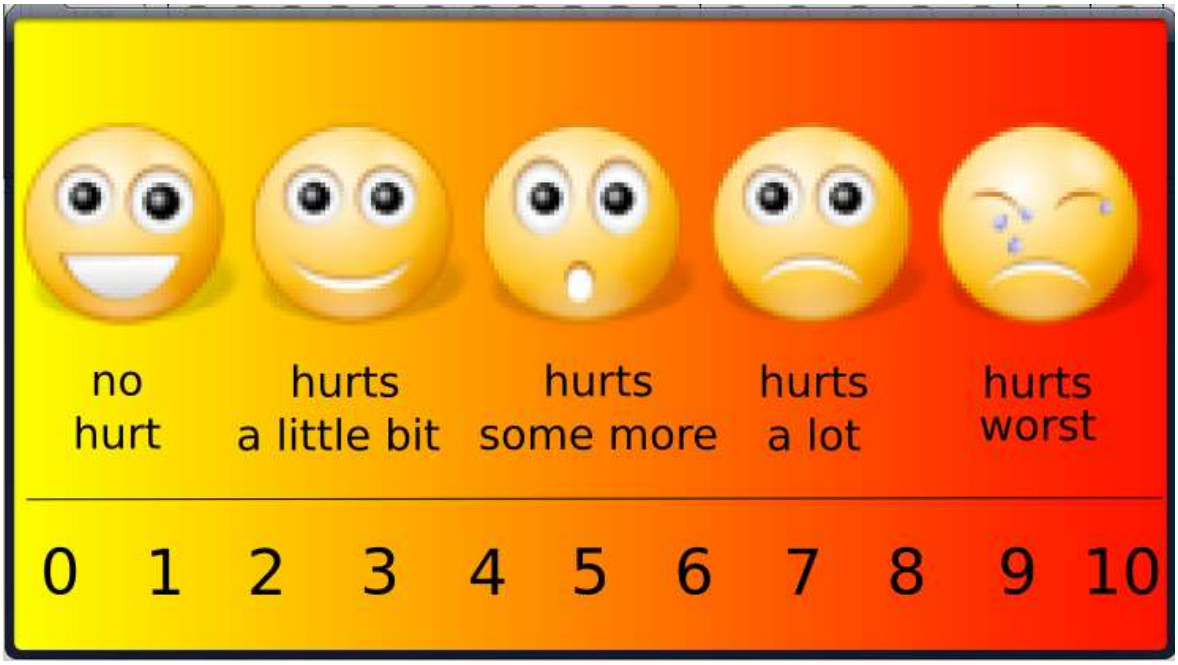
4.5.1 Insert or change a pain measurement

The pain measurement insert provides that it is specified the pain level felt by the inmate, all the other values that are in the page are optional.

The coloured area includes the pain valuation scales:

- Visual (VAS – Visual Analogue Scale)
- Verbal (VRS – Verbal Rating Scale)
- Numeric (NRS – Numeric Rating Scale)

The coloured "checkbox" corresponds to the 10 values of the numeric scale (if you touch them it appears the tick). The inmate can specify if he prefers the visual or verbal valuation. It is expected also a zoom function that enlarge the assessment scale to allow the persons who can't speak to indicate the felt pain directly touching the screen.



When you touch the enlarged image the program detect the point indicated by the inmate and consequently it assigns the pain level corresponding on the numeric scale.

The assessment registration is automatically followed by the USERID (it means the nurse) who has done the pain measurement. After having saved the data the system automatically blocks the typing of the already entered pain measurement data and it is ready for a new pain measurement insertion. The system allows the modification of the previously entered data, but only concerning the last pain measurement to allow for immediate correction of mistakes during the data insertion.

4.5.2 Explanation field

The only compulsory value to specify in the felt pain, all the other values are optional. Anyway it is expected the space to record blood pressure, heart rate, blood oxygen saturation and diuresis value, moreover there are the “checkbox” to indicate any side effects. If during or after the pain measurement medications are given, the latter must be indicated in the measurement itself.

5. Configuration and customization

In order to make the created system very flexible and customizable according to your hospital reality, it has been planned and managed the customization of many information dynamically used by the function. You can access to these functions from the toolbar down on the bottom of the screen through selecting the button

(you can see it if you use portrait mode); Once in the list use the button

on the navigation bar on the bottom. Remember that the administration functions can be seen only by enabled users (see chapter 6).

Administration functions are organized as in the figure below:

The first function "**Users Management"** is described in chapter 6; the second one is explained in 5.2, the protocols are described in the next paragraph. The function "**History**" allows visualizing the activities register.

Note that the modified data in these sections are directly visible and available within the function and particularly within the medical file , without restarting the function; if they are modified while a file is opened you need to exit and the re-access to the file to see them.

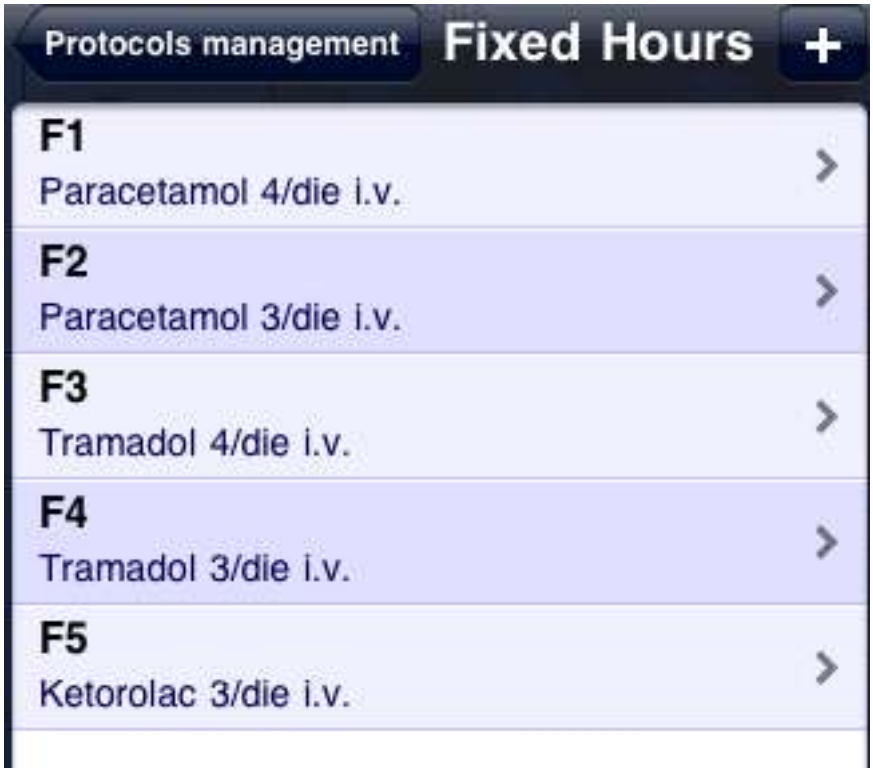
5.1 Therapeutic protocols

In this section (the third among the administration function), you can define and modify the three different kinds of expected protocols, so you need to select in advance the kind of protocol that you want to update.

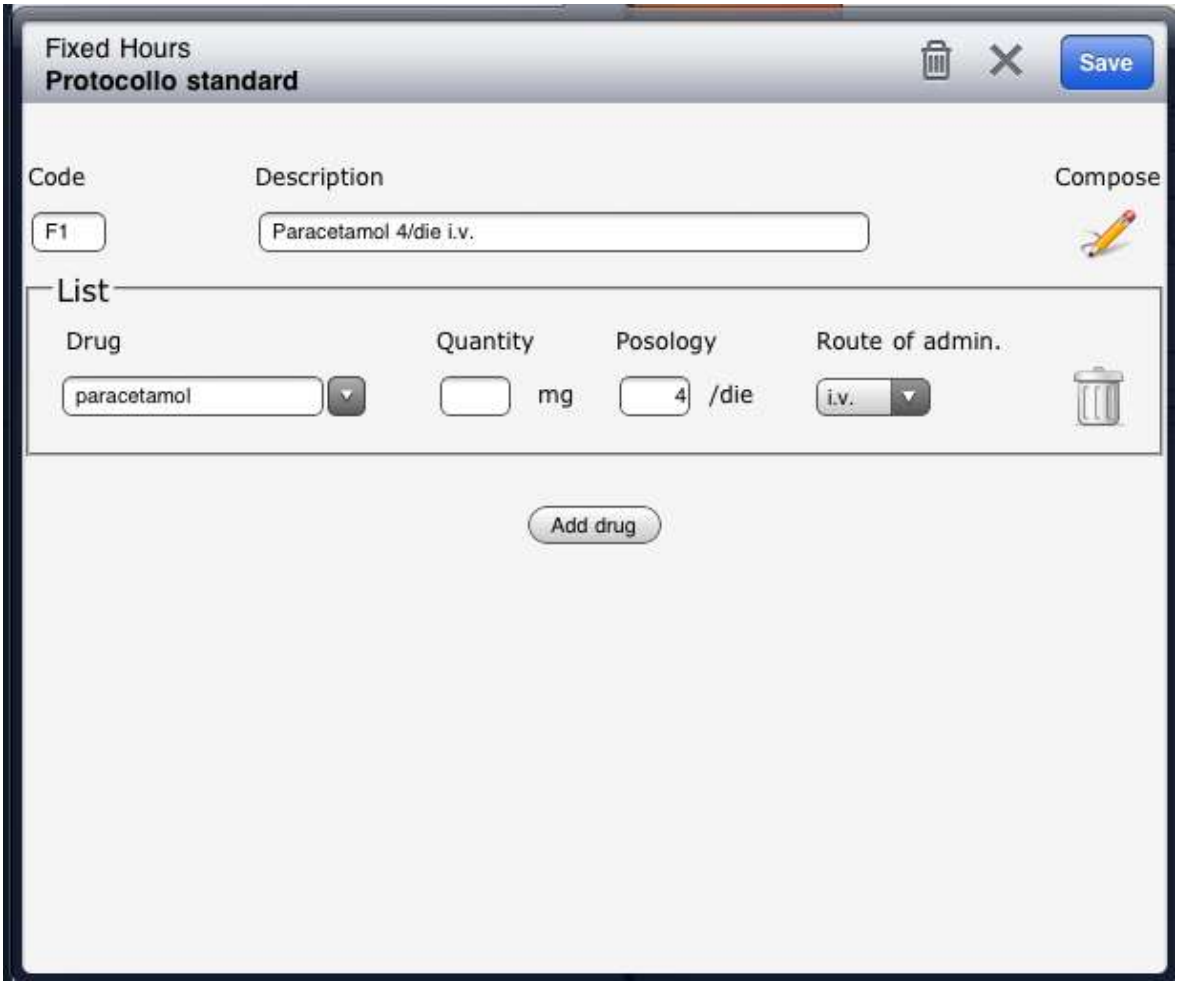
Selecting the function from the list you can enter in the appropriate management area in which , besides visualizing the protocols list previously entered, you can add some others.

You have to access in the edit page of a definite protocol through the protocol selection from the list.

You can enter a new protocol by selecting the button



The page relating the protocol management is shown as the following one:



The layout differs according to the selected protocol, particularly according the figure above. Both in endovenous and peridural protocols there isn't the dosage; moreover in the peridural one it is shown the strength.

It is compulsory to specify all the fields except the quantity that shall to be specified during the application protocol. It can be specified one or more medications and for each one you need to indicate the asked information.

The sign field expects the insert of a customizable code aimed at the prompt identification of the protocol, while the description field expects a large description. The latter can be typed by the user or it can be generated by the application selecting the button . The generation must be done after having specified all the protocol information.

Once that all the protocol information have been entered he data must me saved by clicking the button

It is not possible to modify the data of an already used protocol in some inmate medical files.

5.2 Other basic tables

In this paragraph you can find the description of other basic tables of the application reachable from the second item of the administration functions list.

All the pages that manage the table share the same function to interact with the data.

In particular :

Close the page

Add a new element

Cancel the selected element

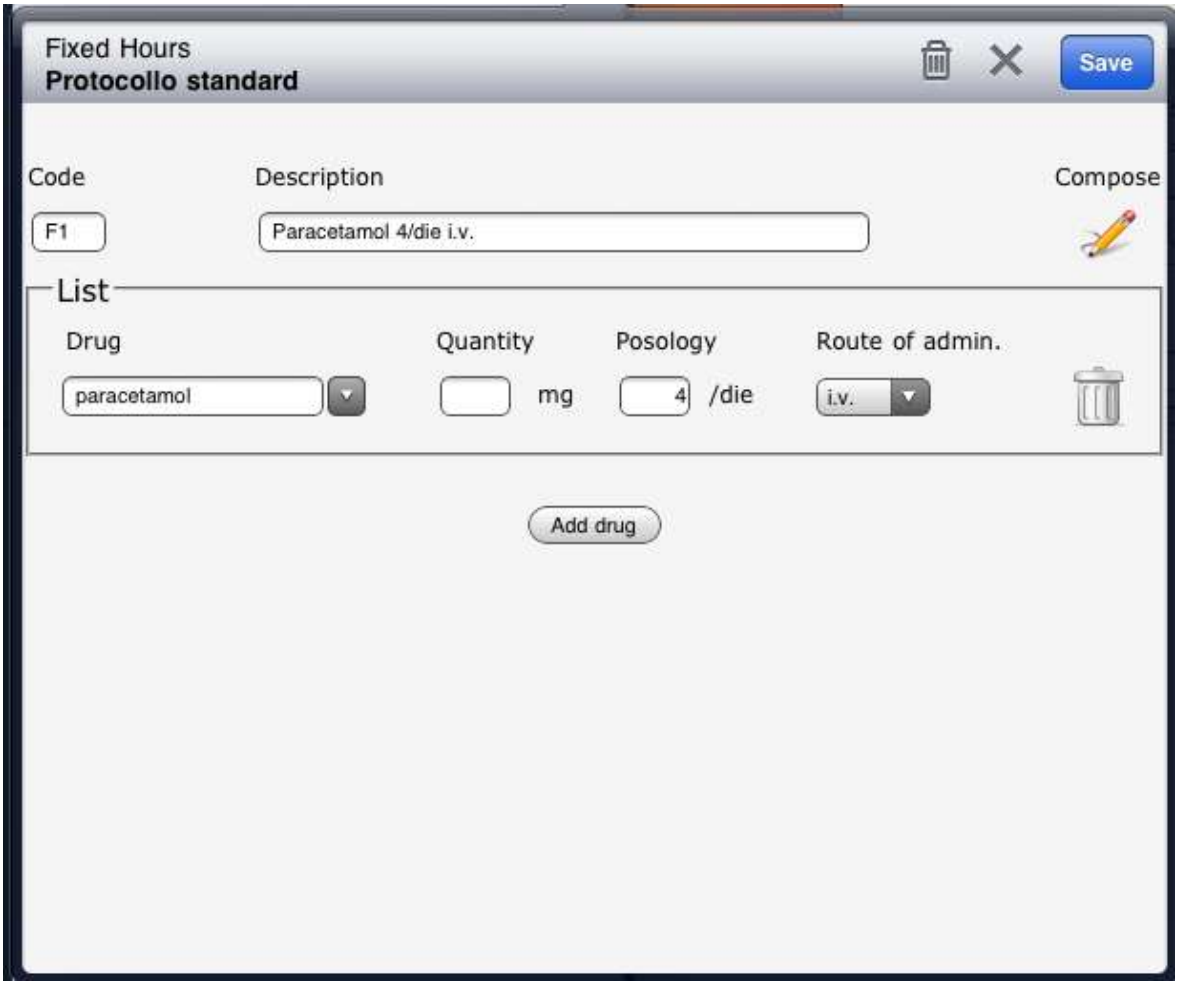
Save all the carried operations

After having done all the changes to the data that is to say insert new elements, deletion or modification to really save the data you need to select the button “Save”.

It is not possible to cancel the elements that have been used once at least in one inmate medical file.

5.2.1 Time therapy

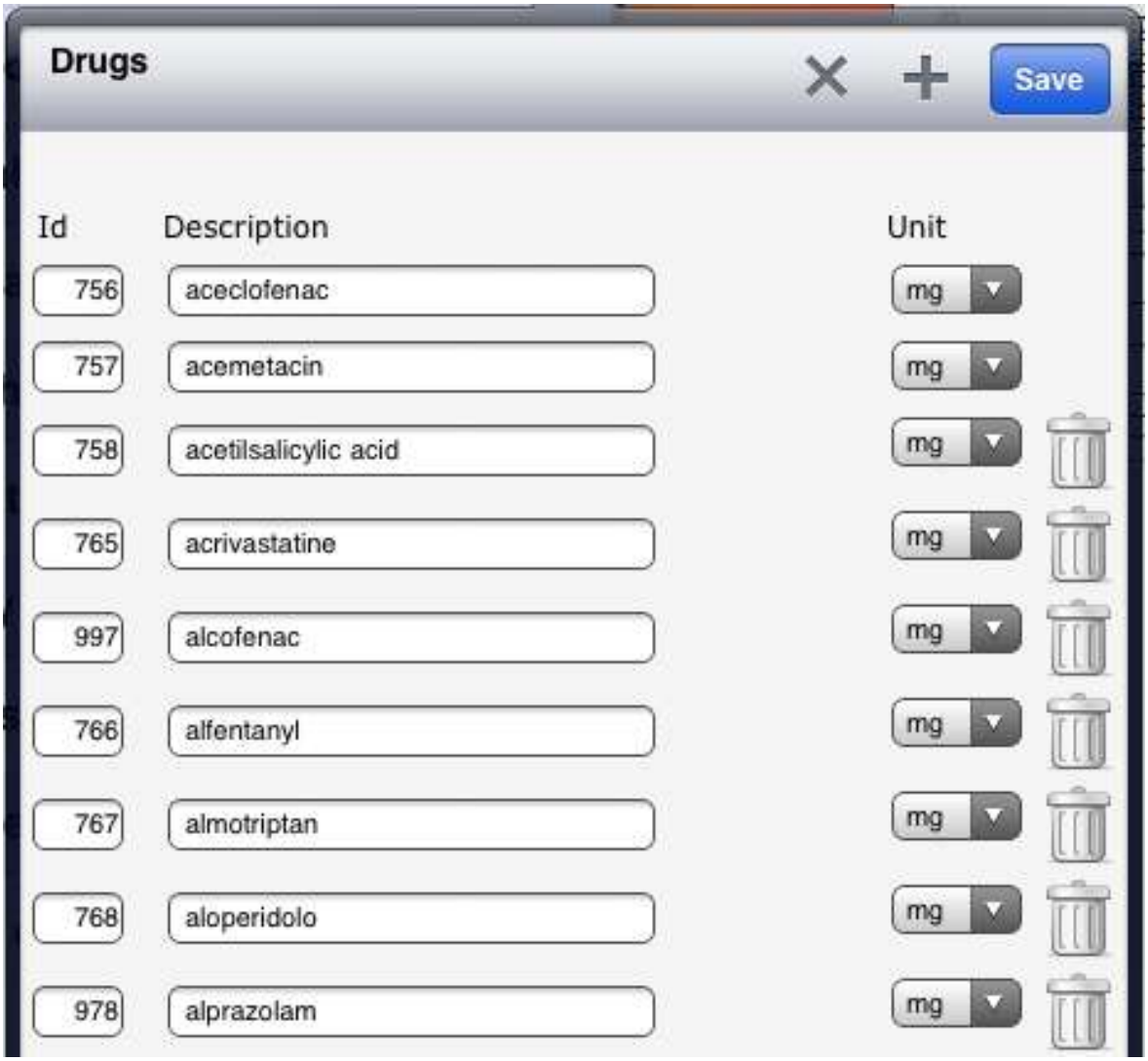
Through this function you can customize the time therapy. This section data are aimed at adding the list concerning the time therapies that are in the analgesia page.



The functioning of his section follows the rules described in paragraph 5.2.

5.2.2 Drugs

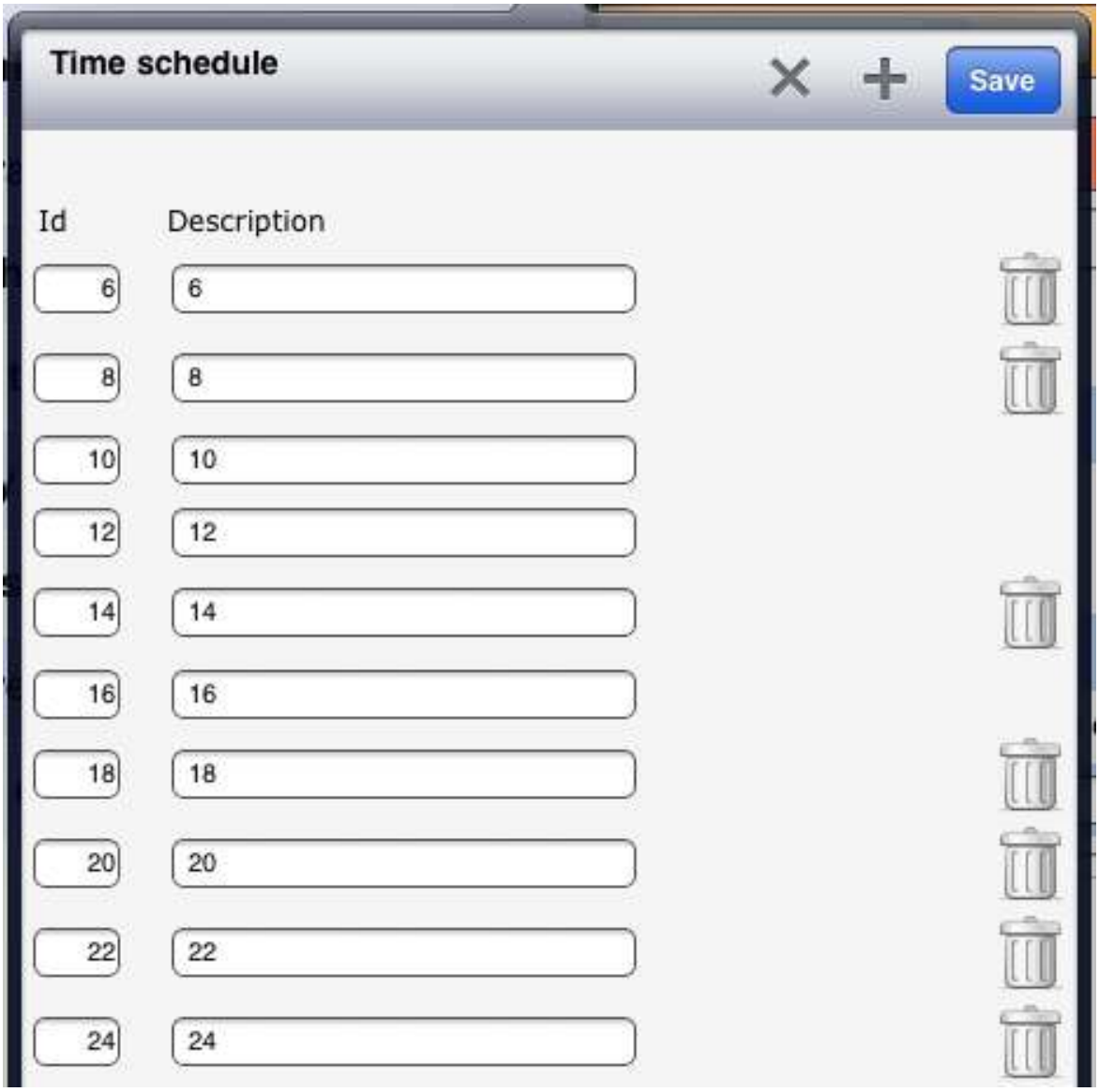
Through this function you can customize the drugs list. The data of the area are used in the whole function to allow the user to choose the given drugs.



The functioning of this section follows the rules described in paragraph 5.2

5.2.3 Time schedule

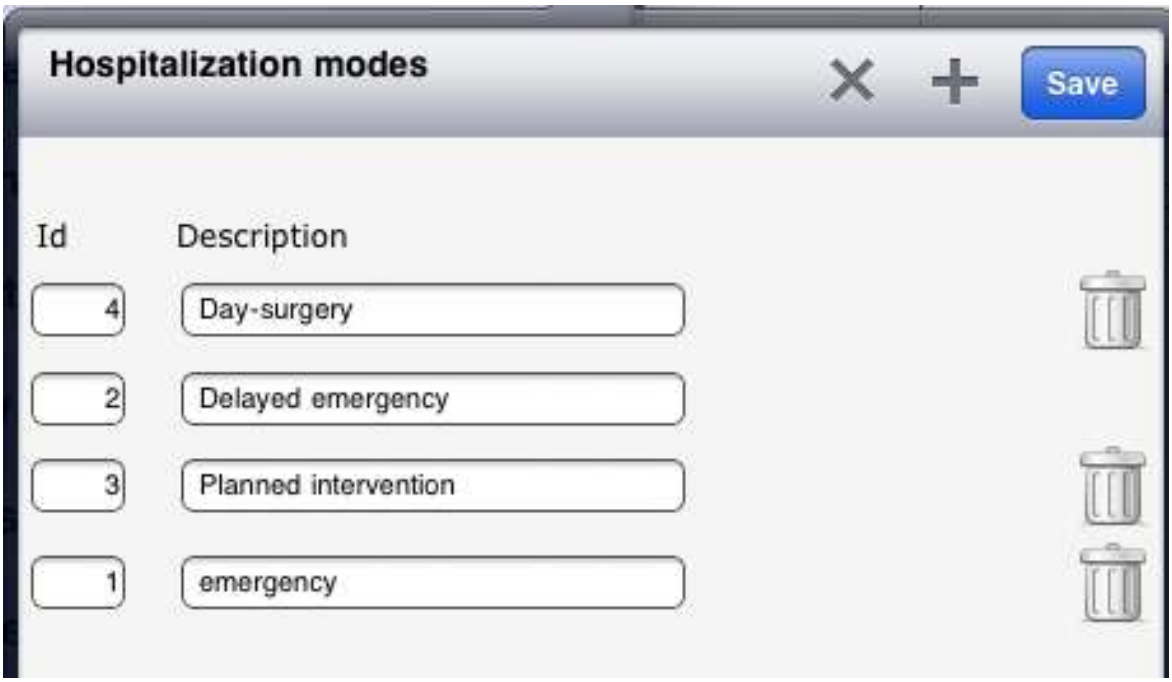
Through this function you can customize the time. The data shown in this area can be used to set the medication time in the fixed time protocol.



The functioning of this section follows the rules described in paragraph 5.2

5.2.4 Hospitalization modes

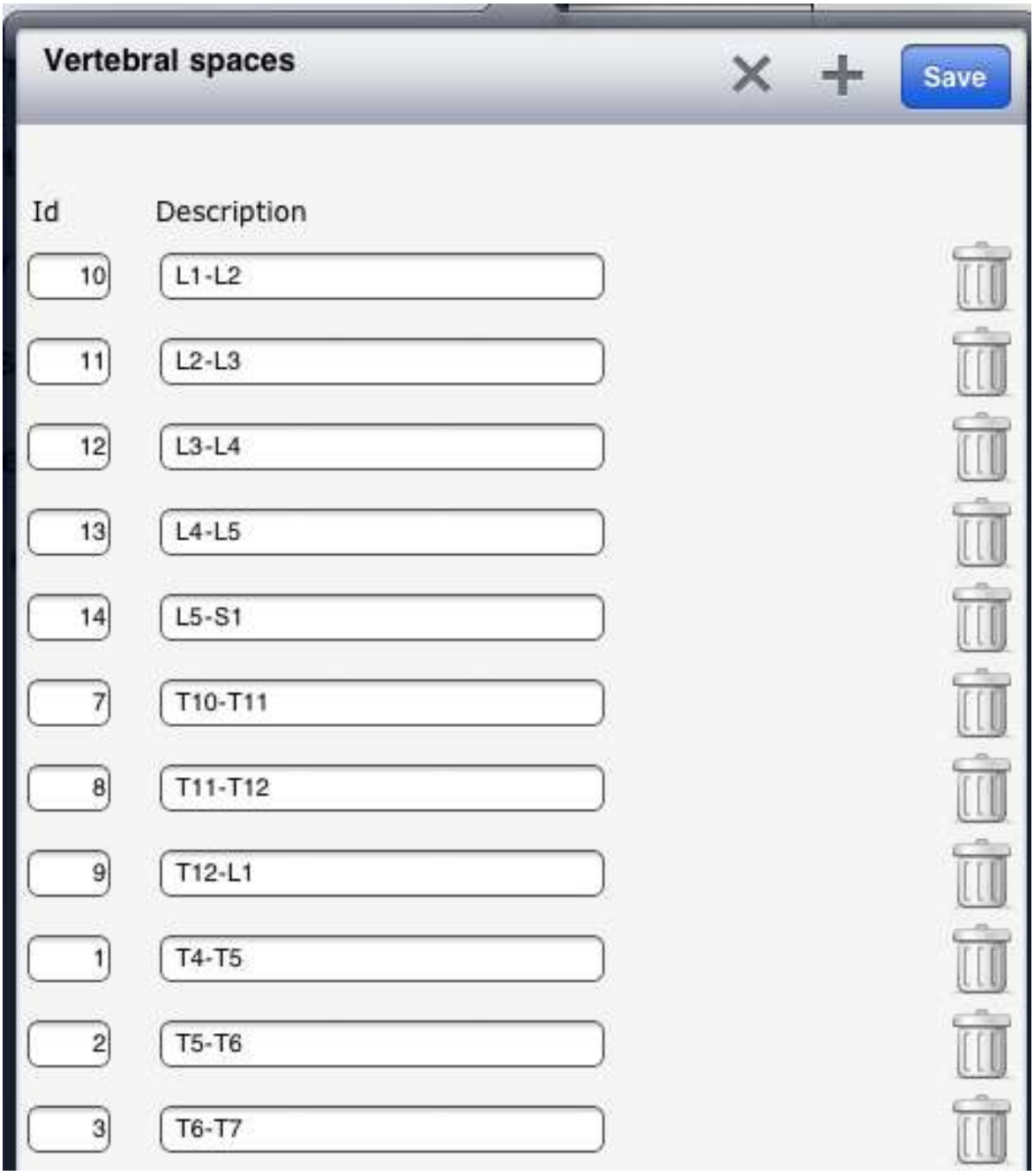
Through this function you can customize the hospitalization, used in the inmates personal area.



The functioning of this section follows the rules described in paragraph 5.2

5.2.5 Vertebral spaces

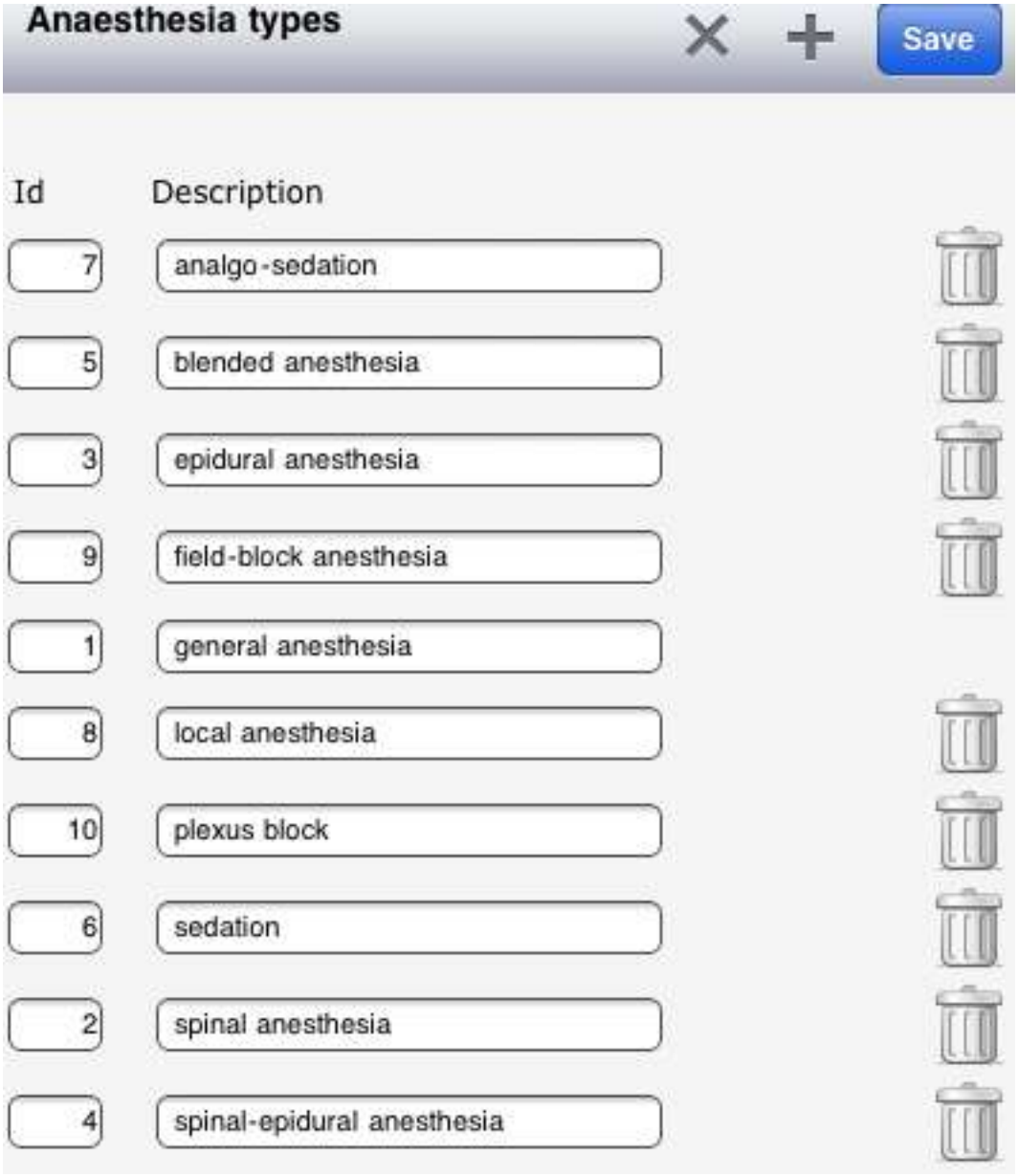
Through this function you can customize the intervertebral spaces list. The data shown in this area are aimed at adding the intervertebral spaces list to be specified in peridural protocols.



The functioning of this section follows the rules described in paragraph 5.2

5.2.6 Anaesthesia types

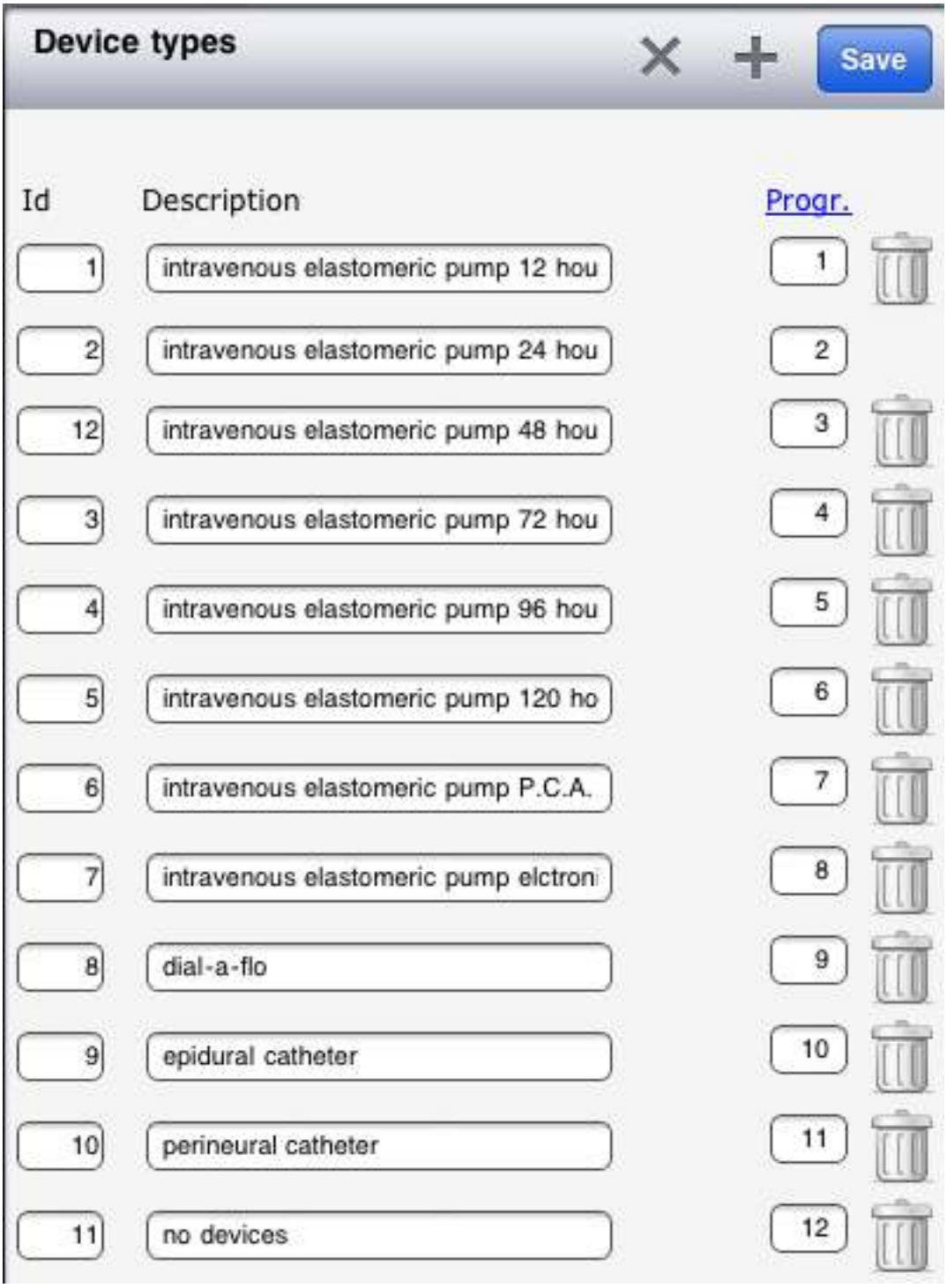
Different kinds of anaesthesia can be customized through this function. The data shown in this section can be used in the anaesthesia page to represent the used types of anaesthesia.



The functioning of this section follows the rules described in paragraph 5.2

5.2.7 Device types

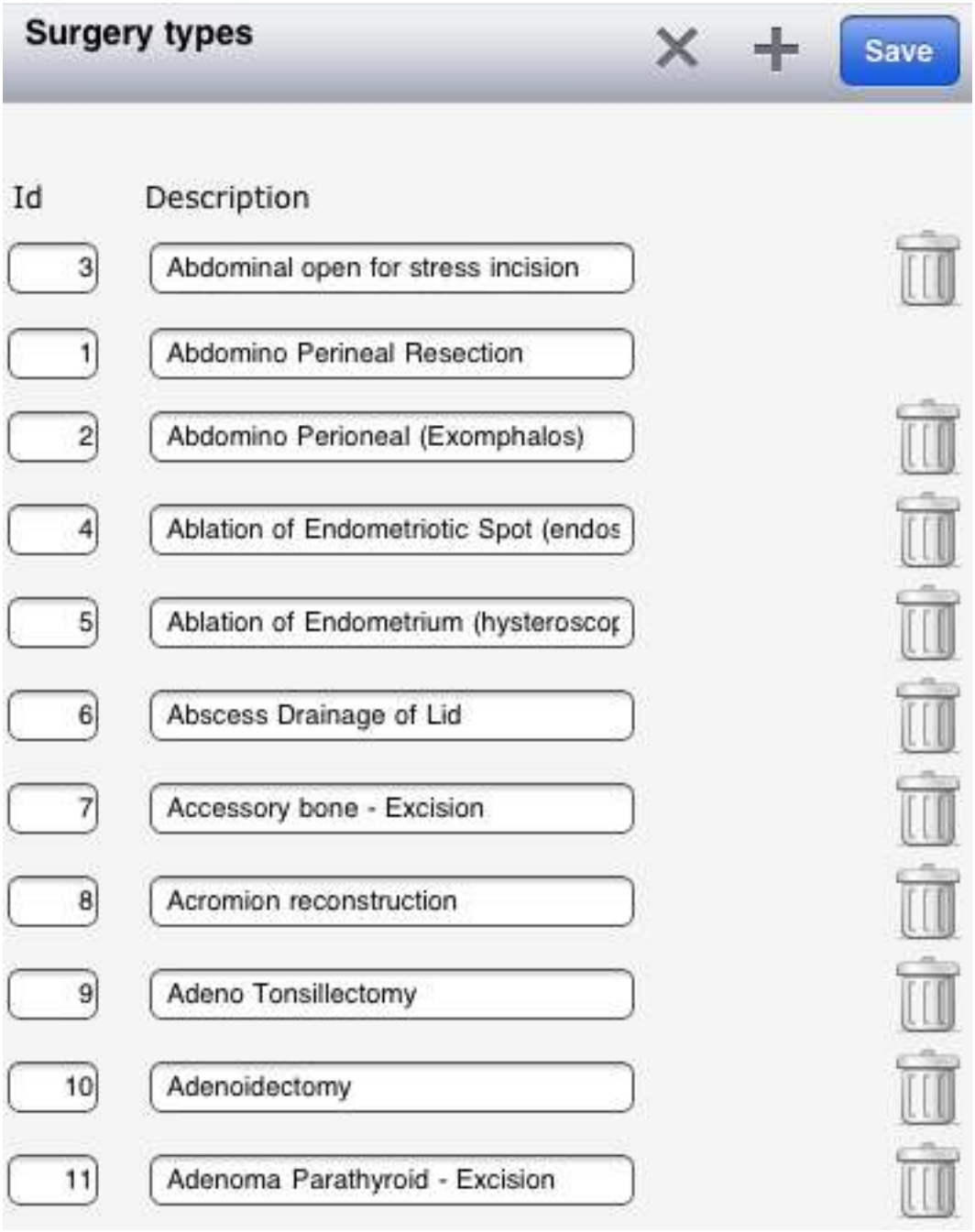
Kinds of device normally used can be customized through this function. The data shown in this area are available in the anaesthesia page of the inmate medical file.



The functioning of this section follows the rules described in paragraph 5.2

5.2.8 Surgery types

The different kinds of surgical operation list can be customized through this section. The data shown in this area are used in the inmate personal area.



The functioning of this section follows the rules described in paragraph 5.2

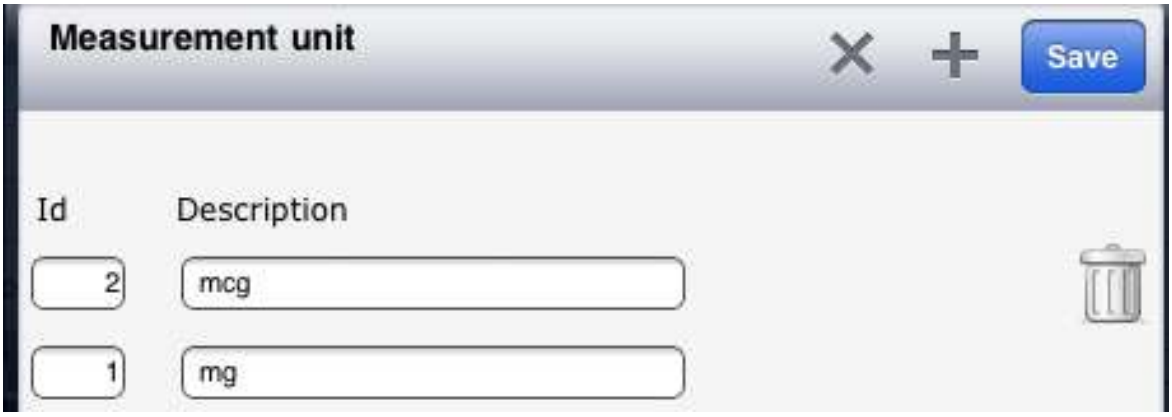
5.2.9 Administration types

Kinds of medications can be customized through this function. The data shown in this area feed the kinds of medication list in the anaesthesia area of the main file.

The functioning of this section follows the rules described in paragraph 5.2

5.2.10 Units of measurement

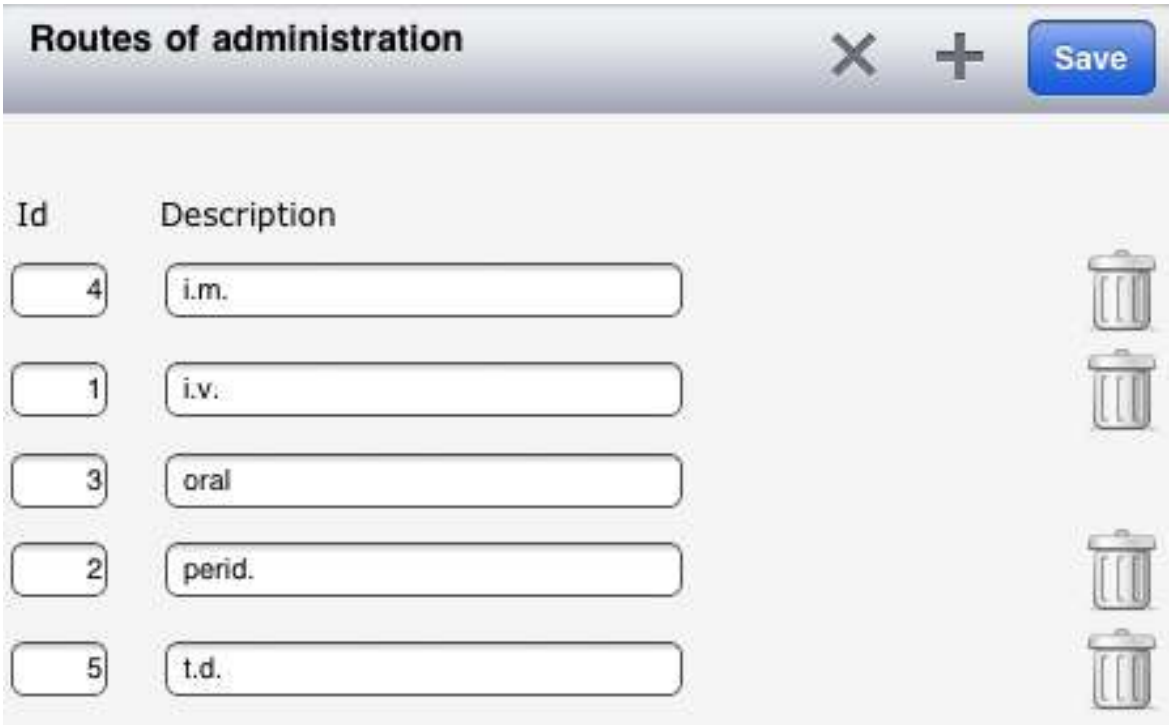
Units of measurement can be customized through this function. The data shown in this area are use to manage the medications (see 5.2.2).



The functioning of this section follows the rules described in paragraph 5.2

5.2.11 Vie di somministrazione

Medications methods can be customized through this function. The data shown in this area are aimed at feeding the medications methods list to associate to the any single drug.



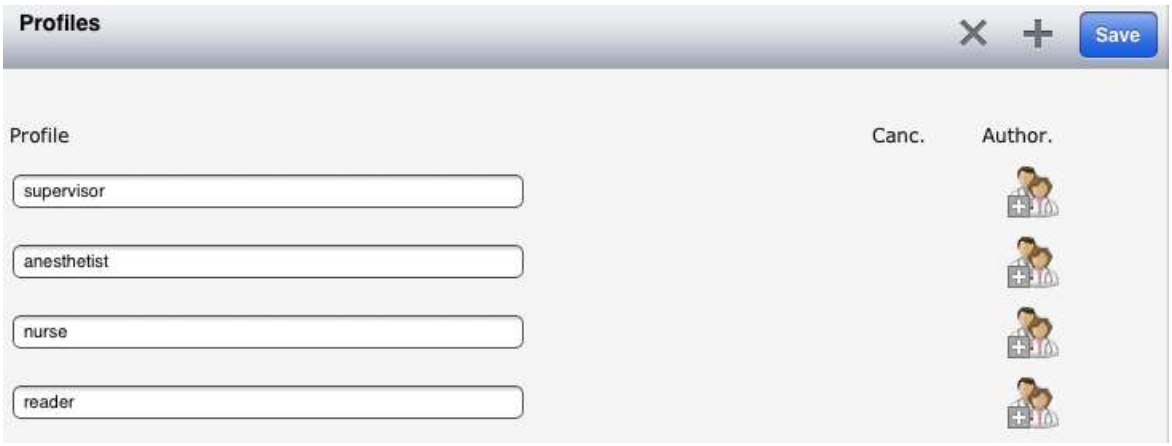
The functioning of this section follows the rules described in paragraph 5.2

6. Definition and management of the users

This paragraph describes the management of the application's accesses and the relating authorization's level. The function is different according to its use in the several profiles associated to the connected user, so according to the profiles you can access or not to certain pages and you can carry out or not certain operations and so on.

6.1.1 Usage profiles and enabling functions

The profile list appears as in the following figure:



Through selecting the button you can see in detail the data of the selected profile.

A profile defines the enabling profiles to each individual function. All the profiles allow "seeing" the same function; the only change is the associated enabling level. Each profile is connected to the represented function in the figure below.

There are two different kinds of qualifications connected to each individual function: the first one has only two possible modes: “enabled” (check box on) or “not enabled” (check box off), the second one has different level of enabling. The possible levels are:

- Read-only – the user can’t modify any data
- Reading/Writing – the user can modify the data without cancel them
- Reading/ Writing/Editing – The user has the whole data control

It is not possible to cancel a profile already used by any users; you can only modify it. There is always a profile “administrator” that has the whole control of the application: it isn’t shown because it can’t be modified; it is the profile automatically assigned to the main user during the installation time.

The profiles definition is managed through the following buttons:

Close the file without saving the data eventually saved

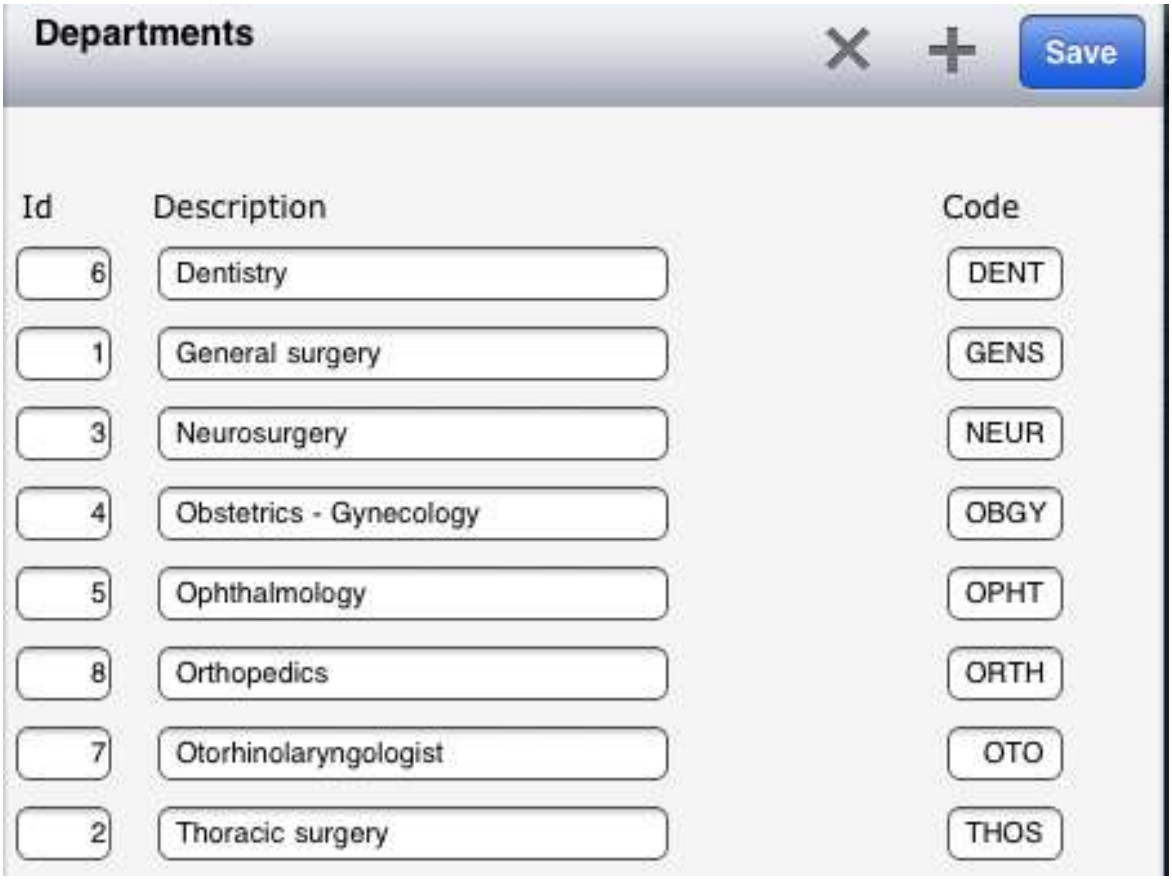
Allows a new profile creation

It saves the data

It cancels the selected profile, in order to confirm the removal you need to save the data through the button “save” after having done the removal

6.1.2 Departments

The wards management is allowed only to the enabled users. The wards are used both in the inmate personal area (see 4.2) and in the users qualification (see 6.1.3). Here below you can find the page that allows the wards management.



It closes the file without saving the data eventually modified

It allows adding a new wards

It saves the data

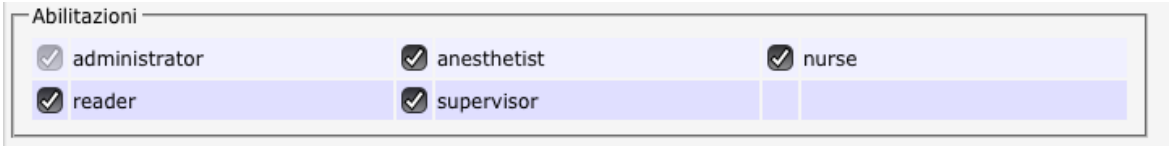
It cancels the selected profiles, in order to confirm the removal you need to save the data through the button “save” after having done the removal

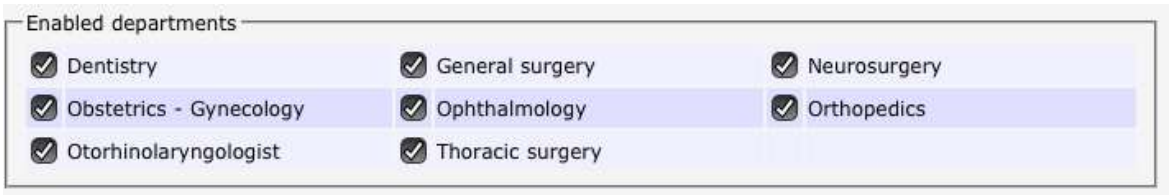
It is not possible to cancel a ward if it is associated to an inmate or to a user.

6.1.3 Users definition

This paragraph allows the definition of the users and the association of both the qualification and the wards.The page appears showing only the entered personal data as in the figure below.

The page is divided in three different areas; the first is the one already described i.e. the personal user area, the second is the one that includes the information relating to the profiles associated to the user while the third one shows the wards associations.





The personal user's area has to be filled with the surname, name and the userid, to be used to login the function. Selecting the item "Doctor" means that this user is a doctor so he will be in the doctors list in the inmate medical files (see 4.2).

It closes the file without saving the data eventually modified

It allows creating a new user

It saves the data

It cancels the selected profile

It resets the user's password: only the user can change it during next login

It makes visible or not the area that includes the profiles connected to the user

In makes visible or not the area that includes the units/wards connected to the users

To confirm the changes you need to select the button

before exiting the page.

For each user you can connect one or more profiles and one or more wards. A user who has more than one profile will be enabled, for each function, to the highest level of qualification of the profiles assigned to him. The units assignment allows the user to see the inmates according to their ward.

Once you have done all the changes relating the qualifications, they will be available to the users during next login.

6.1.4 Password change

If you want to change the password you need to reset it, then you need to save the data by using the buttons below

.

During next login it will be allowed to the user to specify the new password.

7. Other functions

7.1 Log view

Many of the operations carried out by the users are recorded in an appropriate log. The recorded information is available both individually and globally globale.

The logs of each medical record are visible by selecting the function on the top toolbar . The logs of the whole function are available in the administration functions under the item “History”.

Here below you can find an example of a log page.

History of this file

Date	Time	User	Action
2011-05-24	12:26	Smith John	Page #3 blocked in inmate file #2
	12:22	Smith John	Page #1 blocked in inmate file #2
	10:56	Smith John	Inmate data changed: White Paul
	10:56	Smith John	Inmate #White Paul, quantities changed in the administration type
	10:56	Smith John	Inmate #White Paul, post-surgical prescriptions changed
	10:56	Smith John	Inmate #White Paul, standard protocol applied F
	10:56	Smith John	Inmate #White Paul, post-surgical drug prescriptions changed
	10:56	Smith John	The inmate file #2 status changed to Active
	10:55	Smith John	Inmate data changed: White Paul
	10:55	Smith John	Inmate #White Paul, data changed in area Anestesia
	10:55	Smith John	Inmate #White Paul, data changed in area Dispositivi
	10:55	Smith John	Inmate #White Paul, drug administration data changed
	10:55	Smith John	The inmate file #2 status changed to to be completed
	10:24	Smith John	Entering new inmate file Paul White
	10:24	Smith John	Inmate #White Paul, post-surgical prescriptions added
	10:24	Smith John	New inmate file created with n. 2